What is claimed is:

1   1. A method of conserving power consumption in a communication system which includes

2   components capable of selectively entering a low power mode and an auto-negotiation feature by

3   exchanging messages indicative of a low power mode capability, using an auto-negotiation

4   feature to interpret exchanged signals to verify that connected systems include the low power

5   mode capability, and transmitting a signal that a communications session is completed to cause

6   connected systems to enter the low power mode.

1   2. The method of claim 1 wherein said auto-negotiation feature is a next-page facility.

1   3. The method of claim 1 including a further step of employing the auto-negotiation feature

2   further to verify that the connected systems are eligible to enter the low power mode.

1   4. In a system utilizing a data communication device having a plurality of data exchange modes,

2   each of said modes operating at different speeds, one of which speeds consumes less power than

3   another, protocol means for compatibly coupling said data communication device to another

4   data communication device for exchanging data therebetween, and selection means in said data

5   communication device for a data exchange mode having a higher speed than the others, a method

6   for switching to a least power consuming speed which consumes when in an idle mode by

7   exchanging data representative of said data communication devices ability to operate at the least

8   power consuming speed, decoding via said protocol means said representative data, and changing

9   to said least power consuming speed in response to another protocol signal.

1   5. In a local area network which includes Ethernet data terminal equipment capable of low power

2   modes and employing auto-negotiation, a method for conserving power consumption during

3   periods of low usage by using a next-page aspect of the auto-negotiation feature to communicate

4   among terminal data equipment each equipment's capability to assume a low power mode,

5   detecting periods of low network usage, verifying in response to detection of low network usage

6   that each equipment is eligible to assume the low power mode by use of the auto-negotiation

7   feature, and asserting signals to put each eligible equipment in a low power mode of operation.